THE

BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XLVII. WEDNESDAY, OCTOBER 20, 1852. No. 12.

FILLING TEETH OVER EXPOSED NERVES.

[Communicated for the Boston Medical and Surgical Journal.]

No subject in operative dentistry has more earnestly engaged the attention of members of the dental profession, for a series of years, than filling teeth after their nerves have become exposed. This is owing to the frequency of the occurrence and the uncertain results which flow from it. That the teeth exert an important influence over the animal economy—that their appropriate functions are necessary to a healthy nutrition and assimilation—that a disturbance of these functions leads to a derangement, more or less, of parts intimately associated with and dependent upon them—that their preservation is requisite to a perfect intonation and modulation of the human voice, are physiological facts which need no argument to sustain them.

So marked is the sympathetic influence of diseased teeth upon adjacent organs, and parts more remote, that it is a universally conceded point among well-informed dentists, that he who can most effectually counteract it and restore their impaired functions, confers a larger benefit upon the community than the merely *mechanical* dentist; and that it is the duty, therefore, of every operative dentist, in the exercise of his professional skill, to study carefully, both the physiology and pathology of these important organs, in order that, to their various forms of disease, he may be able to make appropriate applications. Formerly, by some of the most eminent physiologists, the teeth were considered as isolated bodies, having little connection or sympathy with the general system; but modern investigation, and the improved methods of treatment, have elevated the science of dentistry, in the true sense of the term, to a specialty in medicine.

The operation of filling teeth when there is little or no sensibility, is mainly mechanical, and may be done by persons of fair mechanical tact who have not received a medical education; but when their sensibility becomes exalted or their lining membranes exposed—when their diseases become complicated with those of other tissues, compromising the general welfare, it becomes a matter of deep interest to the patient, and calls for discrimination and decided action on the part of the operator.

Much has been written upon the subject of exposed nerves, and va-

rious modes of treatment have, from time to time, been resorted to, such as the application of astringents, caustics, the use of essential oils, destroying them with arsenic, &c.—capping them with lead, tin or gold plate; but all of these have been tried with ill success, in numerous instances, greatly to the discomfort of patients and the vexation and disappointment of dentists. Nevertheless, to meet the desires of their patrons, dentists are often obliged to adopt some one or more of these modes, with little hope of ultimate success.

Arsenic, although the most efficient and certain means of removing the sensibility or destroying the nerves of teeth, is not free from objections, in that it seems not well adapted to certain temperaments, being sometimes absorbed by the dentine and the surrounding tissues, producing an inflammation, extending to the peridental membrane—causing a slough of the gum, an exfoliation of the alveolar process, and the removal of the offending tooth. Such results, though seldom, have been known to take place where arsenic had been employed even in small quantities, but may have been owing, in part, however, to the difficulty of retaining it within the cavity. So weighty are these objections, in the minds of some dentists of acknowledged reputation, to its employment, whether alone or in combination with anodynes, that they seldom use it in their practice.

The absorption of arsenic, producing death of the nerve, leaves a *poisoned* wound, with a bloody discharge, which must be healed, and anastomosing vessels formed, before the tooth can be filled with even *comparative* safety.

But another and somewhat serious objectionto the use of arsenic, lies in the fact that the roots of the teeth, which have been filled after the destruction of their nerves, often become diseased from morbid effects produced by it, requiring extraction within a few months, or, at farthest, a year or two, notwithstanding the filling remain sound. In some instances, too, after the loss of vitality from the use of arsenic, the teeth become discolored, presenting an *extravasated* appearance, which, in a *frontal denture*, greatly mars its beauty.

With the idea of remedying these defects to some extent, of substituting a *healthy* for a poisoned wound, of retaining, to the fullest degree possible, the vitality, life-like appearance, and unimpaired functions of the teeth, nearly two and a half years ago I instituted a surgical operation which had been in contemplation for several months.

Case I. June 5th, 1850.—The left superior central incisor tooth of Miss H., and the modus operandi as follows. Having wounded the nerve in preparing the cavity for filling, about an eighth of an inch from the margin of the gum, with a small, sharp excavator I made a straight puncture through the alveolus to the fang directly opposite its centre; then, with a drill about the size of the nerve, I drilled through the fang to the nerve, which, in this case, being small, was entirely amputated. It was the intention to amputate the nerve with a suitable instrument, in case it were not done by the drill. All sensibility between the opening and the pulp being cut off, the tooth was filled in the usual manner and without pain. It is important that the puncture be made directly over

the centre of the tooth and *through* the alveolus, to serve as a guide to the drill, otherwise the object may be defeated without enlarging the opening more than is necessary. The drill should be worked slowly, removed often, and the point dipped in water to prevent its becoming heated; if not, it will cause pain and slight inflammation. The head of the drill should be about the size of the nerve, if amputation be contemplated, a little larger than the shaft, in order that the bone-dust or drillings may escape freely, flattened, and the point sharp and properly tempered. The shaft should have its temper drawn nearly to the head, so that, should the patient start suddenly, it may bend rather than break. For this operation, one of Babbett's spiral drill-stocks is far preferable to the bow, it being more firmly held by the operator and less liable to slip. After drilling, the bone-dust should be entirely removed from the wound, otherwise it will not cicatrize readily.

October 1st, nearly four months after the operation, the patient called again to have other teeth filled, and reported that there had been no pain, nor but little soreness, and *that* where the gum was punctured. An examination proved what was anticipated at the time of the operation, viz., a re-union of the divided nerve, showing that the recuperative energy of the nervous system exists, as well in the teeth as in other organs. Examinations have shown, too, that the nerve sometimes becomes ossified so as to prevent the introduction of a small instrument into the canal through the opening made by the drill. This tooth presented a natural, healthy appearance, free from discoloration, and in all respects was as serviceable as before it was filled.

Case II. June 6th.—J. C. Teeth operated on—the right superior canine and two bicuspids. On finding their nerves exposed, and having amputated the nerve of the cuspidatus, a query arose as to what should be done with the bicuspids having *two* nerves. After a moment's reflection, the drill was carried deeper, cutting off both branches, and the teeth filled without pain. The patient was requested to call and report the case, which he did the third day after, by saying—"all right." On examination, the teeth and gum presented a healthy appearance, the cicatrices being scarcely visible. He promised to inform me if the operation did not prove successful, but has not been heard from.

Having treated a few cases in this way, I determined to go a step farther—after amputation, to remove the pulp from the nerve cavity. This was done in several instances, the result of which in every case, so far as known, has been as successful as when the pulp was allowed to remain. In cases where the pulp is removed, the teeth are not sensible to impressions from heat or cold.

But the inquiry extended still farther—to the molar teeth having two, three, and sometimes four branches of nerves, and situated so far back in the mouth as to be difficult of access. It was readily seen that this class of teeth, from their position and the number of their fangs, each having a nerve, could not be subjects of this operation as performed on the other teeth. This suggested another experiment—that of drilling into the nerve cavity under the festoon of the gum, wounding the pulp as little as may be, then to cover the exposed part with a pellet of

gold made flat and hard, so as to prevent pressure, and leave the result to the *vis medicatrix naturæ*, and for whatever treatment the case might require. This was attended with a result satisfactory to the patient; all that was done being to penetrate the chamber of the tooth to serve as an outlet for the escape of pus, should inflammation and suppuration supervene.

Having treated a molar tooth successfully, and besides, amputation of the nerve, either with or without removal of the pulp, especially in bicuspids with two branches, in some instances requiring considerable time, and being somewhat painful to the patient and difficult for the operator, it occurred that drilling a little nearer the margin of the gum, so as, in a bicuspid, to strike the outer branch near the pulp, slightly wounding it, would effect the desired object.

This operation being more expeditiously performed, and with much less pain to the patient, since its successful employment cutting off the nerve has been practised in but few instances. After having operated in about forty cases, embracing the different classes of teeth, with results far better than had been anticipated, without the loss of a tooth, so far as known, some six months after my first experiment, I communicated the idea and method of operating to a few friends, with the request that they would carry it out in their practice, and report their success. This several of them have done, and so fully does it correspond to my own, as to challenge a comparison between this and any other known method of filling teeth after their lining membranes become exposed.

There are instances in which amputation may be resorted to in filling teeth when their nerves are *not* exposed. Every operative dentist is familiar with cases, where the teeth, for instance the incisor and canine, are superficially decayed, but whose sensibility is too much exalted to allow of the removal of the caries preparatory to filling, unless it be in some way reduced. The common mode of doing this is to apply a little arsenic and cover it with wax, and repeat the operation till the object be accomplished.

A case of this kind occurred Feb. 13th, of the current year, in a lady having six upper and three lower front teeth to be filled. In all of them the sensibility being too acute to admit of the operation, chloroform was administered and three of the nerves cut, after which the teeth were filled without pain. Eight days after, Feb. 21, three others were served in the same way, and on the 28th of the same month the remainder were filled. April 22d, several of the same teeth required filling in other places, when it was found that the nerves had re-united and the sensibility returned, though not in a degree to require a second amputation. In this case, for several weeks, there was considerable soreness and slight tumefaction of the gum about the place of puncture, as not unfrequently happens in strumous habits. This patient remarked that she had a "scrofulous temperament, and that a wound of any kind was a great while in getting well."

Whenever the gum assumes a fungoid appearance, nitrate of silver may be applied with benefit. It has been observed that there is less swelling and soreness in those cases where the opening was made under

the festoon or margin of the gum, than when made through it, or by raising a small flap before drilling.

Having subjected between two and three hundred teeth to various experiments, with the loss of one tooth only (the inferior right second bicuspid), the method which I prefer and generally practise, is, to insert the drill under the edge of the gum where the enamel terminates, and barely make an opening *to* the nerve (with a smaller drill than is used for amputating), wounding it as slightly as possible; then, to protect the exposed nerve from pressure, and plug the tooth in the usual manner.

Without going further into detail, I herewith submit the subject to the medical and dental profession, trusting that it may receive a thorough and candid investigation. S. P. Miller.

Worcester, Oct. 4th, 1852.

DR. COALE'S TREATISE ON UTERINE DISPLACEMENTS.

[Continued from page 212.]

The same remarks apply, though not with the same force, to the vaginal leucorrhœa. Here we have a vascular membrane in a state of irritation and congestion, pouring out from its surface a quantity of fluid which must have a very direct effect in relieving the vessels. To leave these vessels in their full condition, and at the same time essay to prevent the drain, would be bad philosophy, and the speedy induction of acute vaginitis that we have witnessed as the result of such efforts, has since ever made us cautious on this point. Proceeding upon the above views, our course has been not to concern ourself about the leucorrhœa in the commencement of the treatment, but to wait for the indications of a return to health of the uterus itself. In many cases the other will disappear. In some instances, however, the drainage may be so profuse as of itself to be a great obstacle to the recovery of the patient on account of the debility it produces. In such, as in the others, we essay to relieve the condition causing the flow, but we do this by more direct means. The most efficient of these we have found to be injections of warm water, made two or three times a day. Trial by the individual will give the best indication of the precise temperature to commence with, which in most cases, it will be found, can be gradually lowered with advantage until the water used is positively cold. In other words, as we relieve one symptom, we go on to attack another—the want of tone in the parts—by a powerful tonic.

Frequently, even when the original offending condition is removed, the leucorrhœa is still perpetuated, either by the want of tone just mentioned, or by what is called, for want of a better term, habit—instances of which we often see in chronic inflammation of any of the mucous membranes. In these cases an interference or assistance is legitimately called for, and tonic and astringent injections become highly useful. Cold water is the simplest of these, but not always applicable; we have had it in one case produce violent neuralgic pains all through the pelvis. The vegetable and mineral astringents have both been largely

used, and are probably equally extolled; but what experience we have had induces us to give preference to the latter.

Of the former, oak bark—rhatany, either in the root or in the extract—catechu and kino, used in the form of decoction or of diluted tincture, are all highly recommended, and we have never had reason to think one superior to the others. Of the latter, alum—aromatic sulphuric acid—the sulphates of iron, of copper or of zinc and nitrate of silver, are the principal; indeed, all that we can have need of. In ordinary cases, the astringent we commence with is a decoction of an ounce of white oak bark in a pint of water, using it twice a-day. To this, as the parts get accustomed to it, may be added a drachm of alum. As with all such remedies, one should not be used too long, but a change should be made at the end of a week or ten days, and some other astringent substituted. As we often find, in treating chronic indolent ulcers, that a powerful remedy in time loses its efficacy, and a change even to a much milder one is beneficial; so in treating leucorrhœa, we find that it is better to go backwards to a less powerful astringent, than to continue to use one too long.

Among the mineral astringents, the aromatic sulphuric acid pleases us most. It should be diluted until it is about as acid as ordinary vinegar; but if on trial it produces no bad effect, the strength may be very gradually increased—say as far as two or even three drachms to the pint of water. The solution of nitrate of silver we have only used when there was, in addition to the leucorrhœa, an irritable or sensitive condition of the lining of the vagina. We found it then, after prefacing its use for a week or ten days with warm water, to be very efficacious, while other astringents irritated. The strength in which it was used was four grains to the ounce of distilled water. The particular application of the other astringents we leave to the judgment of the reader, based on the well-known properties of the article, all familiar, and the demands of the individual case.

For injecting fluids into the vagina, many syringes have been invented—most of them objectionable. The common female syringe—a cylinder of uniform diameter and perforated with holes at the end to be introduced—is faulty in size. If made to hold much, it is too large to be readily introduced. The body of the syringe being introduced, it is very inconvenient to push the piston up; and when the latter is of glass, it is very apt to be broken off. When the syringe is of glass, it is of course fragile, and it must be managed with great care that it may not be broken while using it. Pewter ones are acted upon by mineral solutions, and of course will not answer in using these. Where it is desirable to use a continued stream, as is often the case with warm or cold water, Dr. E. Kennedy [Dub. Quar. Jour. of Med. Sc., Feb., 1847] offers an instrument which seems well contrived for the purpose. It is in fact nothing more than the common force-pump injecting instrument, with a rose nozzle fitted to the end of the elastic tube, which also passes through a piece of India rubber some two and a half inches wide, four long, and a quarter of an inch thick, to apply over the external parts, and retain the fluid a little longer than otherwise would be possi-

ble. As excellent as this adaptation really is, it would be unnecessarily complex for any but the above-mentioned cases—though the India-rubber plate might be adapted with advantage to any syringe.

The syringe to which we give the preference, is the India-rubber bottle fitted with an ivory tube, having a small ball at the end perforated with fine holes. The bottle is filled by compressing it, putting the end of the tube into the injection fluid, and suffering the bottle to expand again; it should therefore be just so thick as to keep its shape when empty. Thicker than this, it is not emptied readily; thinner, it does not expand and fill itself. The great advantages of this injection apparatus, are, its perfect simplicity of construction, the facility with which it is used and also kept clean, its quality of resisting the action of all fluids, and its durability—not being liable to be put out of order or to be broken. The only improvement we could suggest to this is, that the ivory nozzle might be connected with the bottle by an elastic tube, say six inches in length—and, instead of the bottle being fitted to this last by a screw, the connection might be made by a short ivory-mouth piece, accurately fitted with a ring of the same material on the tube. With this, the bottle could be readily detached and re-charged as often as necessary, without disturbing the nozzle when introduced, thus having all the advantages of the force-pump arrangement just described, but none of its complexity.

The rectum is another organ in the immediate neighborhood, which requires a large share of attention in the treatment of uterine displacements. As we have already mentioned, before any attempt to reduce the displacement it must be thoroughly emptied. But this is only a beginning. It must be *kept* as empty as is consistent with the general comfort and health of the patient. This we have already anticipated in our mention of the causes of these affections. How to effect the desired end in this particular, we leave for the most part to the reader. The indication is a very simple one, and the means should be equally simple—avoiding of course everything that is unpleasant in itself and therefore liable to be neglected by the patient; and also everything which might prove irritating to the parts and thus increase somewhat the trouble already existing. With some, we have found injections of cold water answer admirably; with others, powdered senna eaten at bed-time in a fig suits very well, both as regards the method of taking it and the effect. Rhubarb root, chewed in such quantities as trial has shown to serve, is also very convenient. Whatever the means be, thoroughness and gentleness should be its characteristics. One formula which we think it well to offer for this purpose, is as follows—R. Pill. Rufi, pulv. rhei, āā ʒj. Mix and make into 24 pills. The dose is from one to four of these, taken at bed-time. The particular excellence of this compound is that the aloes it contains is a sufficient quantity to produce a thorough evacuation of the rectum without irritating that organ; and from the well-known tonic properties of the ingredients, the bowels are often strengthened so as to act without any aid. We may add that we have seldom found these pills to act at all harshly.

Having gotten the organ back to its proper place, the next thing is to

keep it there. To be sure, the means we have just been recommending for restoring it and the neighboring parts to a healthy condition, all tend mediately to this, but we want something more direct. Position is of itself in most cases sufficient—keeping the patient on the back ; and Dr. Godefrey, of Rennes, reports [Lond. and Edin. Monthly Jour. of Med. Sc., March, 1842] two cases of anteversion which were cured by this means alone. But however excellent in the abstract, it is unfortunately greatly inapplicable in the actual. The objections to its use are several. The most prominent one of all, is the inability of getting any woman, born in New England, to lie long enough in bed, unless otherwise physically incapacitated from getting out of it. Even if the disposition existed, there might be other reasons why it could not be carried out. Time is money with most ; and besides, there are certain duties and cares of a domestic nature, which must be met personally, and for which money cannot buy a substitute. As efficacious, therefore, as rest is, we not only cannot use it often to our advantage, but, on the contrary, we have to contend not solely against the disease, but also against bodily exertion, the result of the habits or of the necessities of the patient.

Various mechanical contrivances have been made for the purpose of retaining the uterus in situ. Some of these—pessaries—are introduced into the vagina. Others, called abdominal supporters, uterine trusses, &c., are worn externally, acting of course by pressure through the abdominal walls, or on the perineum.

Pessaries have for the last fifty years been greatly relied upon as a remedy for uterine displacements, particularly for prolapsus ; and to adapt them more perfectly to that use, they have been very much varied in the material of which they are composed and in their form. The first conception of a pessary was that of a body of such a size, that, when introduced into the vagina, it would not only retain its situation there, but do this with sufficient firmness to support upon it the uterus tending to prolapse. With this view it was made of some material which could not be affected by the fluids that it might be brought into contact with—hard wood, sponge, ivory, gum elastic, silver, and, lastly —the suggestion, we believe, of Dr. Hopkinson, of Philadelphia—of glass. To dispose of the merits of these various materials is not difficult, and we will do it at once. Glass is fragile, unless thick and heavy, and then should be carefully annealed, otherwise the shape into which it has to be blown, to serve as a pessary, will dispose it to break readily. The results of such an accident seem likely to be too severe to run any risk. Wood, no matter how hard and dense, will in time be acted on by the fluid, and its surface undergoes a sort of erosion. We have seen this in box and lignum vitæ, but have never tried ebony. We should, however, discard all. Gum elastic serves well as far as its resistance to the action of the fluid goes ; but it is difficult to get them made of such shape and size as may be required, and when once moulded, they cannot be altered in the slightest particular. Sponge has the advantage of being compressed so as to be introduced readily, but has of course to be replaced very frequently, and even then is apt to irritate the parts in contact with it. Silver, of all others, is the best, taking material solely in

view, particularly when it is gilt. But it is expensive. Ivory, in most cases, using the pessary as we do, is perfectly sufficient in its resistance to the action of the secretions. It has the great advantages of cheapness and of being very readily shaped in the lathe or by hand to precisely suit any particular case—this latter is very great.

In shape, with the simple intent above mentioned in view, the pessary was a disc with very thick edges where it bore against the walls of the vagina, and having the upper surface concave so as to receive the lips of the uterus. It had also a hole through the bottom of this concavity to give vent to the uterine secretions. It was oftenest circular; though, to meet the views of some, ellipsoid in shape, the antero-posterior diameter of course being the longest one. In England, spherical ones were at one time greatly lauded and used, but with what particular end in view we cannot imagine. It is evident that the uterus could not so readily be sustained upon a convexity, and the shape would fit the instrument to slip down too readily. Besides which, unless drilled in every direction, so that whatever portion happened to be uppermost, the fluids could escape through it, these must collect in some degree behind it.

This is the pessary contrived with the single intent above mentioned. In many instances the pressure above is too great to let it avail even when increased in size to the utmost, an increase which it is evident must be limited after a certain point, both on account of the difficulty of introducing it, and of the disturbance a too bulky body might cause when introduced. Besides which, exercising the distension that it does and must do, it only remedies one evil by substituting another, and never effects a cure. It also sets up a great deal of irritation, accompanied with profuse leucorrhœa, sometimes with ulcerations, putrid discharges and fungous growths. It is apt, too, to make the bladder irritable, and to cause costiveness and embarrass defæcation.

On account of these obvious objections, several pessaries have been devised with a view to avoid them. The body of the instrument was made smaller, and to keep it in its place it was mounted on a stem, passing down the vagina and supported externally. The particular form of the stem, and the method of attaching it to the disc, have been varied with a view to convenience, &c., but the principle is just as stated. Recamier invented one with an elastic stem, which he thought would present an advantage in yielding to any accidental jar or motion of the body. Hervey de Chegoigne, besides mounting the pessary upon a stem, still further adapted the stem and the upper part of the instrument itself to the form of the neighboring organs, so as to embarrass the latter as little as possible, and to produce a more equable operation of the sustaining force. For retroversion of the uterus, for instance, he thickened the posterior edge of the disc, and thus more effectually canted the organ forwards than could be done by one of more uniform thickness. [De quelques déplacemens de la matrice, et des pessaires le plus convenables pour y remedier. Dans Memoires de l'Acad. Roy. de Med., 1833, tom. ii., p. 319. A fair abstract of the paper will be found in the Gazette Med. de Paris, Jan., 1833.] The cases given with the memoir are not only interesting themselves, but are illustrative of an important

fact, viz., that we cannot use any pessary under routine direction. We must adapt the instrument in size and shape to the particular case, and cases vary so much as to make it useless to enter into a disquisition on the advantage of one precise form over another. Each may suit in some particular instance—all may be equally inefficacious in some. In other words, in adapting the shape of a pessary, it has to be done by the requirements of the case in hand, and the physician has to depend rather upon his mechanical tact than upon any rule or direction that can be given him. We therefore abstain from any further enlargement upon this part of our subject, although it has stimulated the inventive talents of many, and afforded employment to the pen of Jules Cloquet [Dict. de Med. in 30 vols.], of Gerdy [Traité des Pansements, 2d edition, 1839—Des Pessaires, t. ii., p. 57], of Rognetta [Remarques Nouvelles sur les Pessaires en Caoutchouc, &c. &c., Gaz. Med. de Paris, Juin, 1834], of Duges, of Desormeaux, and of a host of others in advocating the merits of particular curves, concavities, &c.

We must notice, before going further, the dispute between Duges and Hervey de Chegoigne, as to whether the uterus should be supported by the lower extremity, or whether this, as the latter insists, is apt to irritate it, making it more proper to sustain the organ by contact with its body. We have been unable to find anything to support the views of M. de Chegoigne, and we must therefore be permitted to pass them by in spite of the attention they received when he first insisted upon them with such urgency in 1833—an attention and an urgency which made us hesitate to leave them unmentioned.

For anteversion and retroversion, Dr. Simpson, of Edinburgh, devised a pessary consisting of a slender stem of ivory, two inches in length, rising from the middle of a circular disc—the whole being mounted upon a wire supported by a perineal strap. The ivory stem is introduced into the uterus, after getting it into proper position, and by this it is kept from falling over. Of the effects of this pessary, Dr. Ashwell says:—"Two cases have recently come under my care, and I have heard of more, where the results arising from the use of this instrument have been very serious. Looking at it pathologically, I can scarcely imagine anything better devised for inducing disease. According to this practice, a piece of ivory two inches long is to be introduced into the uterine cavity, and its bearing must of necessity be on some part of the lining membrane, a surface ill adapted to support the pressure for two or three months together of such an instrument. * * * In both, the speculum showed that abrasion of the os and the ostium vaginæ had resulted from the use of the so-called uterine supporter. * * * Is there anything so serious in a retroversion or retroflexion of the unimpregnated uterus, as to justify a practitioner in running the risk of exciting peritonitis, cellular inflammation and abscess—injuring the structure of the womb—and enkindling desires, or implanting habits, which destroy purity of feeling and physical health? Our own conviction is, that this supporter will be found to create more disease than it cures." One case, in which we tried it, supported fully Dr. A.'s opinion, yet friends of ours have seen

cases treated by Dr. Simpson himself very successfully with it. We should wish, however, better recommendations before using it again.

Dr. Simpson [copied into the Am. Jour. of Med. Sciences, 1849] and several others have advocated the employment of medicated pessaries, the first suggestion of which was probably given by Osiander, who used to support the uterus by inserting into the vagina a small bag filled with chippings of oak or other astringent wood. Undoubtedly, in their medicinal influence these would be an advantage; but we think this could be, on the whole, more conveniently obtained by injections, leaving for the pessary a more perfect material in other respects.

We find, both from publications on the subject, and from the verbal expressions of our friends, that, latterly, pessaries are not relied upon as they were formerly, either as a curative or a palliative means, nor resorted to as frequently in either capacity. This distrust in them and disuse of them is in perfect accordance with the views to which our own experience has led us.

In fact, in treating uterine displacement with a view to cure, we look upon the pessary as an assistant during the first periods of the treatment to relieve speedily an urgent and embarrassing difficulty—the disposition of the organ to descend. In using them, we feel that they should not further distend the vagina and embarrass the organs in the neighborhood; the pessary must therefore be as small as possible consistently with its furnishing the proper amount of support to the organ. To retain it in its place, as it lacks size for this, it should be mounted upon a stem and supported by a perineal strap. This is a satisfactory settlement, in our mind, of the question as to what kind of pessary should be used—one with or without a stem. As to the material, in ordinary cases we use ivory, of the shape here given in section. If the case is a peculiar one, and requires some particular modification of the instrument, gutta percha offers an admirable material, as under hot water it can be readily modelled to any shape desired. The stem is a piece of brass wire, having an eye at one end by which to attach it to the perineal strap, and at the other a semi-circular piece of wire by which it is attached to the pessary. The strap that supports it is buckled in front to a belt—is bifurcated in the perineum, and each end passes up backward to a button on the belt at each hip. At the bifurcation, a common button mould should be inserted, and to the material covering this, the end of the stem supporting the pessary is attached. The material for the belt and strap is common cotton or linen cloth, covered on the perineum with oiled silk—altogether a most simple contrivance, that any woman can make for herself. The pessary being very small, is readily introduced by the patient in the morning before rising, and removed by her on lying down at night, prefacing the insertion and following its removal with an astringent or tonic injection. This is the only pessary we would ever use, and we

only use it until our other remedies can restore tone to the parts concerned as well as to the general system, and enable these to do their work.

The only bad effect that we have found from the use of this pessary is, that the wire stem has in two cases irritated the neck of the bladder —though in one of these, there was a preternaturally irritable state of it, which had already required treatment. The fear of this, at the present moment, prevents us from using it in another case. Mr. Schofield, of Bradford, Eng., seems to have used one very similar, made of porcelain, with great benefit, but we do not know that it would have any advantage over the one described; and the pessaires "*a tige*" of Hervey de Chegoigne and others do not seem to be as simple.

[To be continued.]

REMARKS ON CHLOROFORM.

BY SAMUEL A. CARTWRIGHT, M.D., NEW ORLEANS, LATE OF NATCHEZ.

[Communicated for the Boston Medical and Surgical Journal.]

THE many unexpected deaths occurring under the use of chloroform and letheon have elicited much inquiry as to their cause. No satisfactory solution has been given. Undefined dangers, though trivial, are always more dreaded than greater when the means of avoiding the latter are known.

There is no evidence, or even probability, that fusel oil or any other substance, heretofore found in chloroform, can, *per se*, cause death when inhaled with the vapor of that article. The quantity would be too insignificant. But there is abundant evidence that carbonic acid gas will kill almost as speedily, if any cause prevents its excretion from the lungs, as if inhaled into those organs. Anything inhaled into the lungs in conjunction with the anæsthetic vapor, however simple and innoxious in its nature, may produce fatal effects, if by its bulk or tenacity or the re-action of its particles, the cavities of the bronchial tubes be so completely filled with it as to obstruct the exit of carbonic acid from the air-cells. The same effect is produced by the sudden extravasation of tenacious mucosities in the air-cells, tracheal passages or fauces, as witnessed in apoplexy, and asphyxia, from retention of carbonic acid, the consequence. When chloroform, adulterated with any other fluid, however innoxious it may be, is poured on such a heterogeneous substance as sponge, the different liquids are placed in a condition of repulsion, and have new and peculiar relations during the process of evaporation. Sponges consist of gelatin, of a thin brittle membranous substance like coagulated albumen, and some calcareous and adventitious matters. In chemical composition they resemble coral—particularly the horny stem of the Gorgona Antiphates. The sponge itself is only the skeleton or habitation of an imperfect zoophite.

I several times evaporated, from a clean surface and from raw cotton, chloroform, chloric and sulphuric ether, and observed the phenomena by one of Prof. Riddel's microscopes. Nothing unusual was witnessed,

the particles of vapor flying off from the evaporating surface being invisible. Different specimens of sponges were procured. Some contained coralliferous polypi; the smaller crustacea were contained in another specimen. Distilled water and sea water were both used to moisten some one or other of the specimens. They were then placed under the microscope, and chloroform added. A violent re-action was seen to take place on the evaporating surface, and large bullæ made their appearance, chained together by a tenacious web, dancing rapidly over the small area under observation. In some of the specimens the reaction between the chloroform and water was so intense, that one of the by-standers, the famous Prof. Forshey, whom I had not seen for months, happening to step into the laboratory at that moment, detected it with his naked eye. The same Prof. Forshey, some years ago, assisted me in killing alligators by putting a fence-rail down their throats, which we used as a lever and speedily induced asphyxia by compressing the trachea. The compression of the trachea, by preventing the escape of carbonic acid, soon deprived the blood of its vitality and the muscular system of its irritability; thereby stretching harmless at our feet those ferocious and powerful reptiles, which had defied the axes and bludgeons of a dozen or more negroes. On looking up and seeing him, the thought occurred to me, that what the fence-rail did for the trachea of the crocodile, an effusion of tenacious mucus on the lining membrane of the bronchial tubes, or the tenacious elastic particles which I saw playing on the surface of the wet sponge, might do for the fine air-tubes and intercellular passages, when inhaled into the lungs with the vapor of chloroform or ether.

If these views be correct, wet and impure sponge would be a very dangerous article to use as an inhaler; or any other substance containing a liquid which will not mix with chloroform—water being one. The experiments were made, supposing it possible, that if the chloroform were adulterated with an acid, nitrogen or carbonic acid gas might be generated in the inhaler, if made of impure sponge, in sufficient abundance to cause death when inhaled into the lungs. Although I did not find what I was looking for, I think it very likely that I found the cause of some of those deaths when the anæsthenic liquid, however pure it may be, is evaporated from wet impure sponges. Water dissolves the gluten in sponge, which the chloroform alone will not act upon. Hence, when poured on wet sponge, a sufficient portion of the glutinous matter may be carried by the vapor into the smaller ramifications of the air-conduits, to close the door upon the air-cells, and to prevent the extrication of carbonic acid after the inhalation is suspended. Some deaths have no doubt been caused by holding the substance, used as an inhaler, too near the mouth and nose; not so much by preventing the free admission of oxygen, as by the retention of carbonic acid. The continuance of the inhalation, without paying due attention to its effects on the respiratory movements and on the pulse, or to effusions, which may be taking place in the air-passages. is highly dangerous.

There is another danger in the administration of letheon and chloroform, which authors have omitted to mention, but which I have witness-

ed in practice. It consists in any impediment to the free play of the lungs by bandaging or tight lacing. When the pulmonary organs are impeded in their action by any mechanical cause binding down the ribs, the carbonic acid is expelled from them so imperfectly, that the inhalation of the anæsthenic vapor is attended with great peril. Some time ago, one of the best dentists in this city sent for me in an awful hurry to see a young lady of distinction, whom he was unable to arouse from a state of asphyxia, bordering on death, produced by the inhalation of letheon. I found her lying on the floor, apparently lifeless. In the midst of the confusion, screaming and wringing of hands of those around her, I immediately, without waiting to hear a word, split open a very tight corset in which the lungs were encased. It flew open with *a pop*, and the chest expanded several inches in circumference. Immediately the air rushed in, and respiration was re-established. Had the mere unbinding of the chest failed to put the pulmonary organs into play, I intended to have adopted the expedient of artificial respiration. There is no apparent reason why that measure should not be as effectual in resuscitating persons, under such circumstances, as it is known to be in resuscitating crocodiles, and in curing asphyxia caused by strangulation. John Hunter, long ago, proved by the most conclusive experiments, that a mystic union existed between the lungs and the heart. In his own words, he says—"*that a stoppage of the respiration produced a stoppage of circulation, and a restoration of respiration produces a restoration of the circulation. Thus in my experiment on artificial breathing, the heart soon ceased acting whenever I left off acting with my bellows; and upon renewing my artificial breathing, it, in a very short time, renewed its action.*" [Hunter on the Blood, with notes by Palmer, page 188. Philadelphia, 1840.] There is no authority in physiology, where matters of fact are concerned, higher than John Hunter. Yet there are those of the present day, who reject the important American discovery, that "the chief motive power of the blood is located in the lungs and derived from respiration" (first announced by Mrs. Willard of Troy), as an idle vision of the brain, mainly because a visionary physiology, teaching the monstrous absurdity that the cerebro-spinal axis is a species of mirror, has reflected out of their minds into dim obscurity, the solid truths recorded by John Hunter, as well as many of those lately revealed by the progress of the experimental sciences.

Every death from chloroform or letheon is an appeal to the profession to look into the merits of the new doctrine of the dynamic forces, which circulate the blood, for light on the modus operandi of anæsthenic agents, in order the better to guard against their fatal effects. In asphyxia from strangulation or from poisons, artificial respiration has repeatedly succeeded in restoring animation in many hopeless cases, not only in the present age, but in previous ages. Anæsthesia from chloroform differs from asphyxia from strangulation, in the circumstance, that while the jet of vapor arrests or retards the excretion of carbonic acid from the lungs during the process of inhalation, it supplies a stimulus to the blood in some measure counteracting the pernicious effects of the poisonous carbonic acid retained in that fluid. Thus, habitual drunkards are more

quickly affected, yet are with much more difficulty brought under the full influence of chloroform, than other persons whose blood is not charged with alcoholic stimulants. That anæsthesia is only a deep intoxication or temporary asphyxia, modified by the stimulus of the anæsthetic agent, will more clearly appear when the facts revealed by numerous experiments on the crocodile have their due weight and importance attached to them. Those experiments prove that the primary type of life, sensation, consciousness, the will and the power of directing muscular action. is not inherent in the brain or nerves, *but in the blood.* They prove that the blood is vital, and that the rest of the system derives its vitality therefrom. They prove that carbonic acid quickly destroys that vitality, if detained in the blood beyond a few moments of time, and that artificial respiration can restore that vitality and the irritability of the muscular fibre depending thereon, if put in practice anterior to the coagulation of that fluid. The first useful and practical lesson, on the laws governing the action of anæsthenic agents, so powerful for good or for evil, any physician of our northern States can at any time take by simply cutting off the head of a snapping turtle and observing the phenomena. These, as my friend Dr. Cornelius S. Baker, of Pennsylvania, has kindly reminded me, prove that that animal, like the crocodile, preserves for a day or two its sensations, its powers of voluntary motion, its passions and its consciousness, *about as well with its head off as on!*"

Chloroform, therefore, causes loss of sensation, voluntary motion and consciousness, not by acting on the brain and nervous system, but on that vital fluid, the blood, in which the life of the flesh resides, as Moses long ago said it did. It matters not where Divines assign a place to Moses among the prophets, as ere long physicians will be compelled to acknowledge, by the progress of the sciences, that he is entitled to the first place, not only among ancient, but among modern physiologists. The links are already forged connecting his doctrine of the blood's vitality, in its full, literal, Hebrew sense, with the present progress in the sciences. However far separated the progress of the sciences may appear to have led from the doctrine, that the blood is the *subjective* or *the me*, and the nervous and muscular systems the *objective* or *the not me*, or, in the language of Moses, that the life of the flesh is in the blood thereof, the signs of the times indicate that so far from receding they are rapidly approximating, and will soon be united, and the doctrine of the Pentateuch, in regard to the blood, acknowledged to be a profound physiological truth. Not long since, a physician would have risked his reputation as much by talking or even hinting that there was such a thing as a disease of blood origin, as I now do by proclaiming the truths taught by numerous experiments on the crocodile, that the seat of sensation, irritability, voluntary motion and consciousness is in the blood. A few more steps in the path that science in Europe and America is now treading, when it will plainly appear, that there are not only diseases of blood origin, but that the blood is directly deprived, in a greater or less degree, of its vitality by poisons, by contagions, by malaria, and by other morbid agents; thereby producing all those phenomena in their varied forms, which are classified under the term disease. The phenomena of anæsthe-

sia as well as drunkenness will then meet a ready explanation. The means of preventing accidents from occurring in using chloroform will be foreseen, and the remedy for them, when they do occur, will be found in antiphlogistic means to obtund the stimulus, and at the same time in restoring the lost irritability of the muscular fibre, by introducing oxygen into and eliminating carbonic acid from the great pabulum of life, the blood. The carbonic acid retained in the blood, during the inhalation of the vapor of chloroform or ether, deprives it momentarily of a portion of that vitality on which sensation, voluntary motion and consciousness depend.

There is no danger in chloroform, if the laws governing its employment be respected. It should be pure, and given from a clean evaporating surface, as a napkin, or a wad of raw cotton of good staple. There is seldom any utility, but much danger, in pushing it so far as to obliterate all sensation and consciousness. I have given it for days together in protracted labors, not to take all sensation of pain away, but to re-animate the vital forces, and to bring on the pains by small inebriating doses of the vapor; and then, by a freer inhalation, to obtund the severity of the pains it has excited. I am certain, in a case I was called to lately, that but for chloroform, delivery never could have been effected, except by the destruction of the child. After two days labor, the pains had ceased, and the woman's strength had become exhausted. Being called in at this stage of the proceeding, I refused to effect delivery by killing the child, and told the old practitioner in attendance, that although it was very true that the head was too large and the pelvis too small at that time to deliver by any other method, there was a remedy, by the judicious use of which, the pains could be awakened and the vital forces sustained, until the head could be moulded to the shape and size of the auger-hole it was wedged in, and then by the aid of forceps delivery could be effected. Relying on chloroform, I promised to turn this very serious case of labor into a species of frolic, and fulfilled my promise by administering that article in the form of vapor from raw cotton, from time to time. It soon re-animated the vital forces, half intoxicated the patient, set her to laughing and talking, brought on the pains, and in twenty-four hours afterwards, by the assistance of the forceps, I delivered the woman of a living, healthy child, which did well, and the mother recovered speedily.

It is a duty a physician owes to science, to praise an agent which comes at his bidding, like a ministering angel, to perform high and important services in such difficult cases that nothing else can; but in praising the agent, he should not forget another duty he owes to his medical brethren—to caution them, before invoking the aid of such a potent remedy as chloroform, to study its nature well, and the laws governing its action on the animal economy in health and disease, lest it spring a surprise by proving to be a destroying angel. Those who pass for the most wise and prudent in following mere experience and imitation, disregarding nice distinctions and refined principles, called theory (another name for reason), are liable, sometimes, like the ignorant and the rash, to be taken by surprise. Something can be learned of chloroform, by observ-

ing the relations of its phenomena with those of alcoholic liquors. The latter are also anæsthetic agents, and like chloroform act on the blood in three ways—by the mucous membranes, the skin, and the lungs. A wide-mouthed bottle or cupping glass, containing chloroform, inverted on a part affected with a chronic or sub-acute inflammation, is often more effectual than leeching in giving relief. It acts, when externally applied, directly on the vitality of the blood in the capillaries. A patient, who got both hands badly burnt, almost charring the skin of the palms, employed a doctor for each hand. Dr. Peniston, of Camp st., was one, and I was the other. He used chloroform to his hand, and I treated mine in the usual method. The objection to the article in burns, is the pain of the first impression; but it soon causes anæsthesia of the part to which it is applied, if persevered in for a sufficient time. In the above case, its local application to one hand had a soothing effect upon the general system, and on my patient, *the other hand*, also—soothing the pain of that, more than the hand to which it was applied. In headaches, neuralgias and colics, its external use often affords immediate relief. I reduced a case of strangulated hernia by it. In another case, after the hernia had been reduced, and Dr. Dodson, who is at home in all such matters, had applied a truss, the pains continued to be excruciating, although the hernia was entirely reduced. The truss was removed, purgatives were given, and chloroform administered very freely externally, and also by inhalation, but only with temporary benefit. Opiates in full doses were tried, with no better success. Singultus set in, strong enough to shake the bedstead; intense thirst and dry tongue. The doctor reported the case to me, requesting me to visit the patient that night, as he was afraid the man would die before morning. When I arrived, I remarked that the patient held his breath for a much longer time than natural; just as every surgeon has observed his patients do when under a surgical operation. There is a meaning in this instinctive practice of persons in great agony, which has never been explained. Hæmatokinety, or the new doctrine of the motive powers of the blood, explains it very readily. Persons in great pain hold in their breath, because it gives them some relief; and it gives them some relief, because it retains a portion of the carbonic acid in the blood, which would otherwise be expelled by the lungs in ordinary breathing. The retention of carbonic acid in the blood deprives that vital fluid (from which all other parts, nerves, brain, muscles and membranes, derive their life and sensibility) of a portion of its vitality, and thereby eases the pain. But in the above case, the poor fellow had been holding in his breath, like a patient under a surgical operation, for two days and nights. So much carbonic acid, retained in the blood, had affected the pulse at the wrist and scared the doctor, who piled stimulants, opium and chloroform upon him with a free hand, to keep up the pulse and to relieve the intolerable suffering. But it fired the molasses blood, and kept it in a state of stagnation in the capillary system of the great organs. I bled the patient freely from the arm, gave him glass after glass of cold water to drink while the blood was running, rubbed him all over with lumps of ice, and moved the bowels by cold-water injections. He soon said he was in heaven, and went to sleep. He was well next morning.

I once saw a patient of a steam doctor in a similar fix, who was supposed to be dying. I saw at a glance that the patient had been overstimulated, and had held in her breath to get relief from the intense pain she was suffering, until the retained carbonic acid was robbing it of its vitality, as proved by the indigo appearance of her nails and lips. The steam doctor was about leaving the house, but I begged him to stand still and witness the effects of mineral medicines, blood-letting and cold water. I felt the more confidence in the treatment I was about to adopt, as the patient was an excellent type of the inflammatory or sanguineous temperament. It was cold weather, yet I had the fire put out, the doors and windows opened, the blanket covering removed, and the hot bricks pitched out of doors. Jets of cold water were thrown on the patient—a dose of calomel and a draught of cold water were given—a dozen leeches were applied to the epigastrium, and mineral or soda water, with a little salts in it to expedite the action of the calomel, in bringing that other great decarbonizer of the blood—the liver—into action, was administered from time to time. The patient under this treatment almost immediately began to revive. The powers of speech returned, and she expressed her thanks in the most grateful manner. But I could not prevail on the steam doctor to remain after she began to drink the mineral water with mineral medicine in it. He said it was against his conscience, and left the house. Although chloroform was not used in this case, the pathological condition of the system well illustrates that which is often induced by anæsthetic agents.

144 *Canal st., New Orleans, 27th Sept.* 1852.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, OCTOBER 20, 1852.

Throat Diseases.—It is an unexplained phenomenon, why ulcerations, inflammations, bronchial irritations, polypi, &c., should be so painfully numerous. Is it merely because people have multiplied, that cases are so frequent; or is there some vice of a modern growth that leads to their development? Clergymen are among the largest number of sufferers; but physicians long since abandoned the theory that public speaking brought on a diseased condition of the vocal apparatus, since lawyers speak much more and longer in their pleas in court. Then anthracite coal bore the brunt of the battle a while; yet diseased throats have been perpetually on the increase, even where coal is never used for fuel. At length, medical gentlemen began to be consulted by ladies, laboring under the same train of maladies. A favorite opinion once prevailed in France, that bad wine was the cause of calculi; in England, beer gave rise to the stone; and in limestone regions, that misfortune was laid to the charge of bad water. Ultimately, in those countries, stone was found in persons who had neither drank wine or beer, or swallowed a drop of water charged with lime; and then the opinion was advanced that nobody could unravel the cause, which every body now believes to be true. So it is in regard to diseases of the throat. It is difficult to account for what is daily occurring in this respect. However, there should be no relaxation in searching out causes and remedies; and we trust this will be thoroughly persevered in, and the results made known.

Comparative Anatomy.—Messrs. Gould & Lincoln, of Boston, will publish, as early as possible, a treatise on Comparative Anatomy of the Animal Kingdom, by Prof. C. Th. Von Siebald and H. Stannius, translated from the German, with notes and additions, by Waldo J. Burnett, M.D., of Boston, a well-known correspondent of this Journal. This work is believed to be the best and most complete of the kind extant. Messrs. Gould & Lincoln have a reputation which ensures a thorough and perfect edition. Dr. Burnett's efforts in this enterprise will unquestionably command the patronage of men of science throughout the whole country. It is a book that is actually needed in all the schools of medicine.

Neligan on Diseases of the Skin.—This is an entirely new book. It was fresh from the author's hands the first of June, in Dublin, and has now been re-published at Philadelphia, by Messrs. Blanchard & Lea. Strange as it may appear, the work has actually passed through an American press without being burthened with the name of any ambitious editor who "has enlarged and *improved* it." The volume is not therefore increased in size and made dearer than it should be.

Dr. Neligan is a distinguished physician of a hospital in the capital of Ireland. He is a plain, common-sense writer, not dealing in suppositions, but in facts. The volume is a duodecimo of 333 pages, divided into fourteen chapters, embracing the consideration of the whole range of cutaneous maladies. For consultation, and a ready reference to the best practice in any of the known forms of disease to which the skin is incident, it is a valuable book. Its cheapness and portable size are considerations. Wherever Dr. Neligan's labors have been noticed in Europe, the Medical Journals have spoken in the best manner of his success in this practical treatise. In Boston, copies may be obtained at Ticknor & Co.'s.

Simon's General Pathology.—At St. Thomas's Hospital, London, John Simon, one of the surgeons in 1850, gave a course of lectures on General Pathology, as conducive to the establishment of rational principles for the diagnosis and treatment of disease. There are twelve in the series, and each discourse has a regular text, followed by a methodical discourse. Thus, the first treats of disease; second and third, blood in disease; fourth, quantitative irregularities in distribution of blood; fifth, irregular growth; sixth, fibrinous effusions; seventh and eighth, tumors; ninth, scrofula; tenth, nervous diseases; eleventh, evacuative medicines; twelfth, morbid poisons. Each lecture abounds with valuable suggestions, accompanied by a train of wise observations, which instruct the reader and tend to the advancement of the profession of medicine. From the circumstance that the whole twelve lectures have appeared in the London Lancet, it is hardly necessary to enter upon an analysis of them. Blanchard & Lea are the publishers.

To Correspondents.—The length of the articles in the present number of the Journal has excluded much editorial matter, as well as various favors of correspondents. Some of the latter we shall endeavor to insert next week.

Errata.—In the last number of the Journal, page 224, eleventh line from bottom, after the word *stand*, insert "to the disease." On same page, next line, for "cause and effect," read "cause, or effect."

Married,—In Boston, Dr. Washington Hoppin, of Providence, R. I., to Louise Clare, daughter of the late Maj. J. R. Vinton.—At Providence, R. I., Dr. Samuel L. Abbot, of Boston, to Eliza Jones, daughter of the late T. C. Hoppin, of P.—At Hartford, Ct., Dr. Bern L. Budd, of New York, to Kate F., daughter of the late Rev. T. H. Gallaudet, LL D., of H.

Deaths in Boston—for the week ending Saturday noon, Oct. 16th, 71.—Males, 38—females, 33. Accident, 1—inflammation of bowels, 2—disease of bowels, 1—inflammation of brain, 1—disease of brain, 2—burn, 1—consumption, 15—convulsions, 3—cholera infantum, 1—cholera morbus, 1—croup, 3—dysentery, 3—dropsy, 3—dropsy in head, 5—drowned, 1—infantile diseases, 3—puerperal diseases, 2—typhoid fever, 2—scarlet fever, 3—inflammation of lungs, 2—liver disease, 2—marasmus, 1—mania, 2—old age, 1—palsy, 1—pleurisy, 1—rheumatism, 1—scrofula, 1—teething, 1.

Under 5 years, 31—between 5 and 20 years, 6—between 20 and 40 years, 15—between 40 and 60 years, 9—over 60 years, 10. Americans, 34; foreigners and children of foreigners, 37. The above includes 5 deaths at the City institutions.

Foreign Bodies introduced into the Urethra.—In a late number of this Journal (vol. 1, 1851, p. 196), a case was reported in the "Mirror," where Mr. Birkett, of Guy's Hospital, removed a pen-holder from the urethra of a young man who had himself introduced it. A somewhat analogous instance was lately mentioned by M. Baché before the Surgical Society of Paris. A man, seventy years of age, took a fancy to pass into his urethra a twig of fir-tree, with short, bristly, closely adherent leaves. The twig used to be introduced with the attachment of the leaves looking posteriorly, so that it glided easily enough, and the slight resistance offered by the leaves when the branch was being withdrawn seemed to suit the old man's depraved taste. One day, however, the twig broke within the urethra. On examination, the anterior extremity of the fragment was found corresponding to the bulb. As the canal was found to be sufficiently dilated to admit of polypus forceps, M. Baché introduced the instrument as far as the locking of the branches, and succeeded in drawing out the twig. Strange to say, no unpleasant symptom occurred. The twig is being preserved in spirits; it is covered with all its leaves, and is four inches long.—*London Lancet.*

Ague treated by a Terebinthinate Liniment along the Spine.—M. Aran mentions, in the *Bulletin de Thérapeutique*, that he has succeeded in staying ague fits by the use of the following liniment: Essential oil of turpentine, three ounces and a half; chloroform, about one drachm. The patient was a young man, with whom quinine had failed, and the above liniment was used about two hours before the fit. The latter appeared at the usual hour, but was somewhat shorter than the preceding; the second was kept off for four hours; the third failed to appear altogether, and the patient was soon quite well, experiencing only for a few days a certain amount of discomfort at the accustomed hour of the fits. The liniment had several years ago been introduced by M. Bellencontre, laudanum being, however, used instead of the chloroform employed by M. Aran.—*Ib.*

Atropine Externally in the Treatment of Neuralgia.—Such is the activity of this vegetable alkali, that great precaution is required in its application to the treatment of disease. Dr. Lusanna reports in the *Gazette Medicale de Lombardie*, some experiments which he was able to institute with this very active agent. He reports two cases of facial neuralgia which were promptly mitigated, and soon definitely cured by the external use of atropine.

It may be used by the endermic and iatraleptic method. The skin being previously removed by a blister, or, what is still better, because more speedy, the ammoniacal pommade of Gondret, when the atropine is dissolved in a small quantity of alcohol, then mixed with simple ointment and applied to the denuded surface. In this way, M. Lusanna says, we may employ from a demi-grain to a grain in the twenty-four or forty-eight hours. M. L. uses the following formula iatraleptically:—R. Atropine, 5 centigr.; alcohol, à 36 q. s. Dissolve. Add axungia, 12 gram. M. This ointment he uses in the form of frictions over the part affected every two or three hours, consuming a portion the size of a pea each time.—*N. Orleans Medical and Surgical Journal.*

Dr. John Stokoe, the medical attendant of Napoleon at St. Helena, appointed by the English government, is dead.